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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/931,841
Filing Date: August 16, 2001
Appellant(s): NADJ ET AL.

Altera Corporation
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed July 14, 2008 appealing from the Office action mailed December 28, 2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner.

The rejection of claims 22-27 under 35 U.S.C. 112, first paragraph is withdrawn.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,701,324

Cochran et al.

March 2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 22-27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth whether the invention accomplishes a practical application and whether it generates a useful, concrete and tangible result.

The guidelines explain that a practical application of a 35 U.S.C. 101 judicial exception is claimed if the claimed invention physically transforms an article or physical object to a different state or thing, or if the claimed invention otherwise produces a useful, concrete, and tangible result.

In the present case, independent claim 22 does not involve transformation of article or physical object to a different state or thing, they merely recite associating queues with a data structure. Further, independent claim 22 does not produce a useful, concrete, and tangible result generated by a medium having program instructions because a computer readable medium is not defined in the specification comprising processing instructions.

Claim 22 taken as a whole is directed to a mere program listing, i.e., to only its description or expression, is descriptive material per se, do not comprise a practical application as explained above hence is nonstatutory.

Since the claimed invention, as a whole, does not comprise a practical application as explained above, claims 23-27 which depend from claim 22 respectively, are deemed to be directed to non-statutory subject matter.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 5-10 and 22-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Cochran et al (U.S. Patent No. 6,701,324).

Regarding claims 5 and 22, Cochran discloses a method/program for scheduling events in a computer processing system: (abstract)

identifying queues, each queue associated with a corresponding priority; (fig. 4, items 402, 404 and 406)

defining a data structure with a root level having a group node, the group node having nodes stored contiguously in memory and pointer; (fig. 1 A, item 110, 108n, 106 and 104, col. 5, lines 18-22 and col. 8, lines 41-46)

associate queues with respective nodes of the data structure; (col. 5, lines 22-28)

assign a value representing the corresponding priority to the respective nodes; (col. 5, line 22, *scheduling*)

determine priority between nodes based on respective values representing the corresponding priority to the respective nodes; (fig. 3, 108n, 110, 302 and col. 7, lines 10-19 and lines 53-59)

select one of the events corresponding to a node having a highest priority for transmission to a processing resource (fig. 4, items 424 and 426 and col. 8, lines 56-65); and

processing the selected one of the events at the processing resource prior to remaining events (fig. 4, items 424 and 426 and col. 8, lines 56-65).

Regarding claims 6-10 and 23-27, all of the features have been noted in the rejection above, in addition see rescheduling (fig. 4, item 424 and related text), routing manager (fig. 1A, item 110 and related text) and RDBMS (fig. 1A, item 114 and related text).

(10) Response to Argument

35 USC § 101 rejection

Appellant alleges on pages 5 and 6 that claim 22 involves a “physical transformation”, and that “Firmware includes software instructions stored in hardware, thus firmware encompasses a computer readable medium” and is therefore statutory.

Examiner disagrees. Selecting an event for processing does not require any transformation take place. Second, the term "Firmware" is not claimed in the pending claims. The rejection is directed to a mere program listing because the claimed medium is not defined in the specification and does not claim storing the program instructions in a computer processing system.

Prior Art rejection

Regarding claims 5-9 and 22-27:

Appellant alleges on pages 6 and 7 that Cochran does not teach defining a data structure with a root level having a node group, in the context of the claims, because the claimed data structure includes a root level, node groups and nodes sharing a pointer.

Examiner disagrees. Examiner first notes that throughout the examiner's answer additional citations are made to support the final rejection and clarify the teachings of Figure 1A of the prior art. With regard to the prior art, Cochran illustrates in Figure 1A a distributed data collection. The disclosed data collection is equated to a data structure because it comprises a root level (item 110) having a node group (108a-n) and the nodes sharing a pointer (bidirectional arrows pointing to and from the nodes via gateway), see col. 3, lines 45-67. Figure 1A therefore illustrates a data structure comprising a root level with a plurality of linked nodes (see col. 5, lines 15-32). The entire data structure may be referred to as a single data structure because all of

the elements of the structure can be accessed from the root level (item 110 and col. 8, lines 56-65) and can run on a single system (col. 4, lines 16-28). Note, the claimed invention is not a data structure claim but is a method for scheduling events in a computer system.

Appellant alleges on pages 7 and 8 that "there is no mechanism in Cochran to select a highest priority event in the data structure because there isn't a global structure".

Examiner disagrees. As explained above, figure 1A illustrates a data structure, wherein all members of the data structure may be accessed by calling the root level (item 110). Cochran further teaches system wide tracking of collection data/requests (col. 5, lines 15-32 and col. 7, lines 53-59) comprising a priority (col. 5, lines 52-59 and fig. 4, item 412). The collection data/requests were equated with the claimed events in the rejection. The collection data/requests (fig. 1A, item 104) are scheduled based on priority (col. 3, lines 60-67 and fig. 4). With regard to a global structure, please refer to column 7, lines 1-10, *global basis*).

Appellant alleges on pages 8 and 9 that "Cochran, means that [that] the data is distributed throughout the disk, therefore, it can not anticipate nodes that are stored contiguously".

Examiner disagrees. Appellant refers to a Merriam-Webster Online Dictionary, that contiguous means "*touching or connected throughout in an unbroken sequence*" because there is no description for contiguous memory present in the instant Application. Entering "contiguous" into a Merriam-Webster Online dictionary yields four definitions. The first definition displayed defines contiguous as: "*the one being in actual contact: touching along a boundary or at a point*". Hence the relevant subject matter refers to "the one being in actual contact" and the

claimed limitation of “nodes stored contiguously in memory” is equivalent to nodes stored (and) accessible in memory. No teaching is made whether the stored data is in a virtual or physical storage. Cochran teaches that the nodes (108) are interconnected by bidirectional arrows (fig. 1A) and that data may be transferred between the nodes (col. 3, lines 63-67).

Appellant alleges on page 9 that Cochran does not teach “nodes sharing a pointer”.

Examiner disagrees. Figure 1A of Cochran illustrates a distributed data collection. The disclosed data structure comprises a root level (item 110) having a node group (108a-n) and the nodes sharing a pointer (bidirectional arrows pointing to and from the nodes), see col. 3, lines 45-67. Figure 1A therefore illustrates a data structure comprising a root level with a plurality of linked nodes. The entire data structure may be referred to as a single data structure by accessing the root level (item 110 and col. 8, lines 56-65). The bidirectional arrows are pointers shared between the nodes (nodes 108a-n). Cochran also describes connected nodes at column 2 lines 15-33.

Appellant alleges on page 10 that Cochran does not teach “k number is equal to a number of multiple queues”.

Examiner disagrees. Figure 1A of Cochran illustrates nodes 108 comprising between two and three queues, wherein a set of events (items 104) represents one queue, hence for simplicity of discussion, the number of gateways (items 106) represent the number of queues. Examiner notes that the claimed language uses “comprises” and not “consisting of”, and because the

claimed language is open ended it allows for additional features to be read between the claimed elements. Hence, each node (108) comprises at least one queue (items 104 and 106).

Appellant alleges on pages 10-13 that Cochran does not teach “a value representing the corresponding priority to the respective nodes” and selecting the highest priority node.

Examiner disagrees. Collection data/requests were equated with the claimed events in the rejection. The collection data/requests (fig. 1A, item 104) are scheduled based on priority (col. 3, lines 60-67 and fig. 4). The nodes enable priority based queuing of events (col. 6, lines 52-57) and comprise priority level 0 up to 4 (col. 7, lines 16-20). When a queue has priority 1, all the events (104) associated with that queue may also comprise the same priority and the assigned node (108) to a respective queue will then process the top priority queue first. See related section at column 6, lines 52-57.

Regarding claim 10:

Appellant alleges on page 14 that Cochran does not teach “resolving conflicts between respective nodes assigned a same value by rotating a pointer among the respective nodes assigned the same value.

Examiner disagrees. According to figure 1A, if two nodes comprise the same priority then a determination is made to determine which node should be processed first, for example based on node availability or other factors (col. 3 lines 60-65). Picking the determined node involves rotating the pointer to the respective node for selection and processing.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Marcin Filipczyk

/Marc R Filipczyk/

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